WHAT IS CLAIMED IS:

1.   A multiple measurement and memory electronic ear thermometer, comprising:

a keypad unit including an activation key, wherein when the activation key is pressed, the keypad unit is operative to generate an input signal;

a microprocessor in electric communication with the keypad unit, the microprocessor being operative to generate a first control signal in response to the input signal;

an ear temperature measuring unit, operative to measure ear temperature from a first user in response to the first control signal generated by the microprocessor and convert the ear temperature into an electric signal sent to the microprocessor to generate a second control signal;

a display unit, operative to display the ear temperature in response to the second control signal; and

a memory unit, being partitioned into a plurality of individual memory sectors, wherein a first memory sector is operative to save the ear temperature in response to the second control signal.

2.   The thermometer of Claim 1, wherein each of the memory sectors is in the form of a queue data structure.

3.   The thermometer of Claim 1, wherein the display unit includes a liquid crystal display.

4.   The thermometer of Claim 1, wherein the memory unit includes an electrically erasable and programmable read only memory (EEPROM) or a random access memory (RAM).

5.   The thermometer of Claim 1, wherein the ear temperature measuring unit is also operative to count time for ear temperature measurement.

6.   The thermometer of Claim 1, wherein the ear temperature measuring unit is operative measure a second user in response to the first

control signal, and a second memory sector is operative to save the ear temperature measured from the second user in response to the second control signal.

7. The thermometer of Claim 1, wherein the keypad unit further includes a key for inputting a number of users.

8. The thermometer of Claim 7, wherein the keypad unit further includes a key for inputting identification code for each user.